

CIRCUIT DESCRIPTION

1. Balance EQ Circuit

Connect two EQ amps (exactly the same circuit) as shown in the figure. With regard to the COLD side input, connect the HOT side NF resistance to the COLD side inversion input.

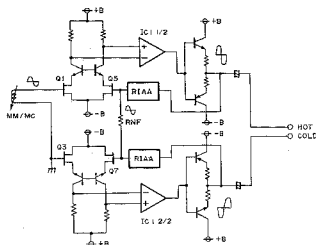
The HOT side operates in the same manner as in the case of the conventional EQ circuit.

When the HOT side is operated, gate Q7 is connected virtually.

With regard to the COLD side, voltage, which is applied to gate Q5, is applied to the inversion input.

The characteristics of this amp gain is obtained by

$$\text{GAIN} = 1 + \frac{2(\text{RIAA})}{\text{RNF}}$$



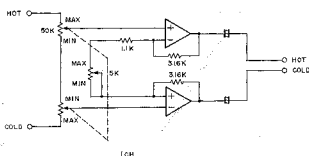
2. Balance Volume Circuit

This pre amp employs a balance volume circuit. In addition, by combining with variable and GAIN AMP it improves S/N.

When this pre amp is operating or when VRMIN, the NF resistance becomes a maximum of 6.1K and the gain is also reduced at the same time as input is reduced.

$$\text{GAIN When VRMA} = 1 + \frac{316K \times 2}{11K} \approx 6.7 \text{ times (16.5dB)}$$

$$\text{When VRMIN} = 1 + \frac{316K \times 2}{61K} \approx 2 \text{ times (6.0dB)}$$



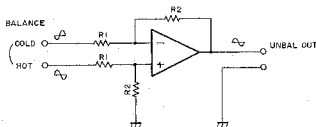
3. Balance to Unbalance Conversion Amp

This amp converts the signal transmitted at balance to the unbalance signal. It negates external noise signals generated in phase at the HOT and COLD sides, and extracts the desired signal only.

In this per amp, the constant has been set to obtain output voltage, which is $\frac{1}{2}$ that of the input voltage between HOT and COLD.

$$\text{GAIN} = \frac{R_2}{R_1} \cdot \frac{R_2}{2R_1} = \frac{1}{2}$$

where $R_1 = 2R_2$, is set



CIRCUIT DESCRIPTION

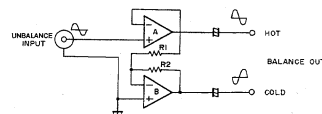
4. Unbalance to Balance Conversion Amp

In this amp the unbalance signal, which is input at the RCA pin, etc., is applied to the noninverting input of the A side amp. As the output and inversion input are directly connected in this amp, it operates as a GAIN=1 buffer amp, and outputs signal to positive phase (HOT).

B side amp grounds noninverting input, and operates as an inversion amp in which NF resistance is set to the same value ($R_1=R_2$).

When A amp (positive phase) output is input, then the negative-phase output (COLD), which is an inverted phase, is output.

The output voltage of this circuit (between HOT and COLD) is twice as large as the input voltage.



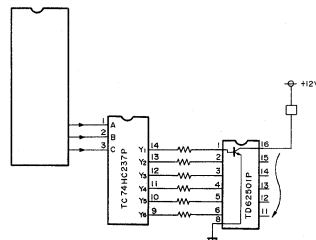
5. Microcomputer Port Extension IC TC74HC237AP

This microcomputer port extension IC is to utilize the microcomputer port effectively. The microcomputer output signal, which is encoded to 3 bits, is decoded to six relay control signals.

Input			Output					
C	B	A	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆
		H	H					
	H			H				
	H	H			H			
H						H		
H		H					H	
H	H							H

ENABLE
G_L=L
G₂=L
G₁=H

All the signals are L besides H.



L-1000C

L-1000C

CIRCUIT DESCRIPTION

Pre Amp Unit (X08-2362-70)

1. EQ Circuit OP Amplifier (IC1, 2)

Two sets of EQ circuits are used per 1CH as this OP amplifier has balance EQ. The HOT side (noninverting amplifier) is a conventional EQ circuit, and the COLD side (inverting amplifier) receives an NF (feed-back) signal of the HOT side which is added to the inverting input. By doing so, the inverted output can be obtained.

2. Balance Input Circuit Buffer Amp (IC3, 4)

This becomes an impedance conversion buffer amp when gain is 1.

3. LINE 1 Input Circuit Amp (IC5, 6)

This converts the unbalance signal (the signal which is connected by an RCA pin) to the balance signal. This also serves as an input buffer amp.

4. LINE 2 Input Circuit Amplifier (IC7, 8)

This converts the unbalance signal (the signal which is connected by the RCA pin) to the balance signal. This also serves as an input buffer amplifier.

5. TAPE 1 Input Circuit Amplifier (IC9, 10)

This converts the unbalance signal (this signal which is connected by the RCA pin) to the balance signal. This also serves as an input buffer amplifier.

6. TAPE 2 Input Circuit Amplifier (IC11, 12)

This converts the unbalance signal (the signal which is connected by the RCA pin) to the balance signal. This also serves as an input buffer amplifier.

7. Balance-Unbalance Conversion Amplifier (IC12)

This is a conversion amp to output the balance input signal to the REC OUT Circuit (unbalance signal), and the gain is set to -6dB.

8. REC OUT selector analog SWs (IC22-25)

9. Balance-Unbalance Conversion Amp (IC26)
This balance-unbalance conversion amp is to output the pre amp output, which is transmitted at balance, to apparatus which has only unbalance input, and the gain is set to -6dB.

10. Power IC for Relay and Motor IV (IC29)

The maker of this VR power IC is limited to correspond with 15V three terminal tone quantity

11. Power IC for Relay and Motor IV (IC30)

The maker of this VR power IC is limited to correspond with 12V three terminal tone quantity

12. Negative Side Power First OFF Circuit (Q43, Q44)

This is provided to reduce the power supplied to each section, especially to reduce the electric potential of the EQ circuit to a fixed value, when power is OFF.

13. Analog SW Control Signal Generation Digital Transformer for REC OUT Circuit (Q47-52)

This converts the level of 0V ↔ OPEN to -15V ↔ +15V.

14. Relay Driver Transistor (Q53-55)

This drive relays from the microcomputer output signal.

15. Zener Diode for Relay Circuit (D43, D47-53)

This stabilizes the surge killer and control signals.

16. REC OUT SW Diode (D62-65)

This generates the SOURCE signal.

Tone Unit (X11-2802-70)

1. OP Amp for LCH Line Amp (IC1)

This serves as both the volume buffer amp and the balance output amp.

2. OP Amp for RCH Line Amp (IC2)

This serves as both the volume buffer amp and the balance output amp.

3. Tone Output Buffer OP Amp (IC3)

This serves as an unbalance to balance the conversion output amp of the tone circuit.

4. Input Conversion OP Amp for Tone Circuit (IC11)

This is a balance-unbalance conversion amp for the tone circuit.

5. μ CON Circuit Regulator IC (IC17)

This is a 5V three-terminal regulator IC for μ CON circuit.

6. Transistor Array (IC21, 22)

These are seven element transistor arrays.

7. Power Relay Drive Transistor (Q17)

This drives the relay by the microcomputer signal.

8. Constant-Current Diode (D72-82)

This drives a relay drive circuit at a constant current.

9. Rotary Detector (S6)

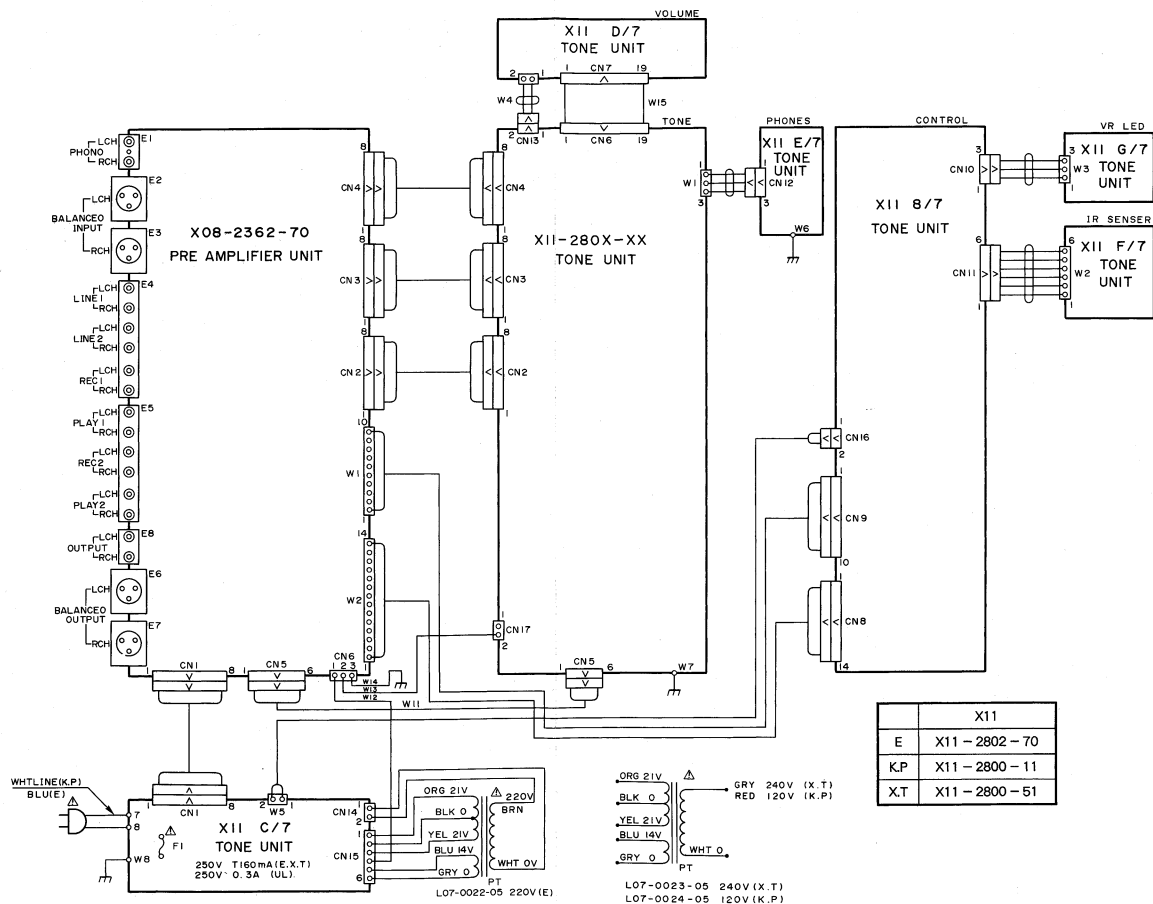
This is for the source selector and reselector.

10. Ceramic Resonator (X1)

This is a microcomputer clock oscillation element (600KHz).

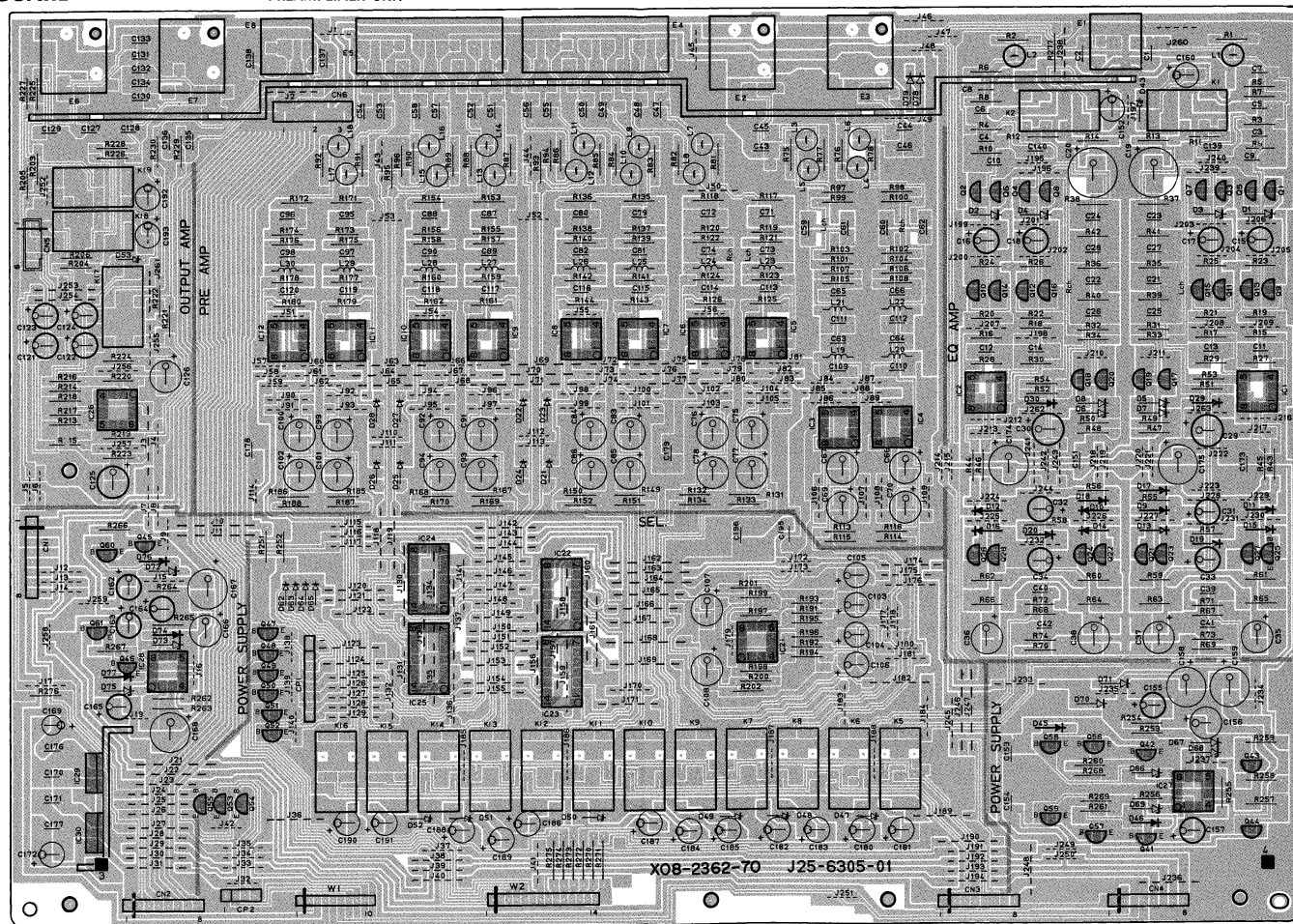
WIRING DIAGRAM

L-1000C L-1000C

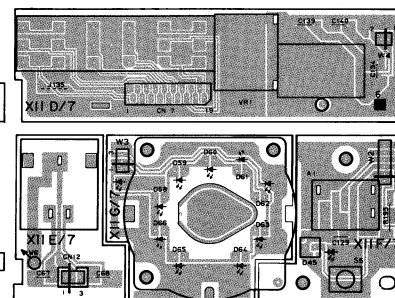
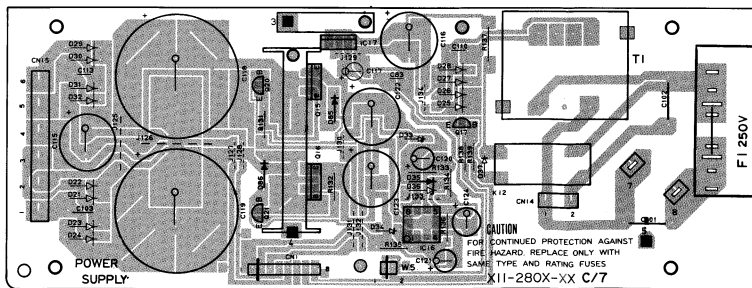
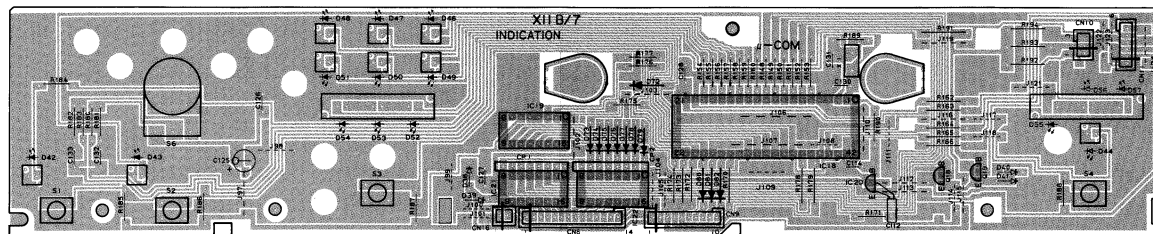
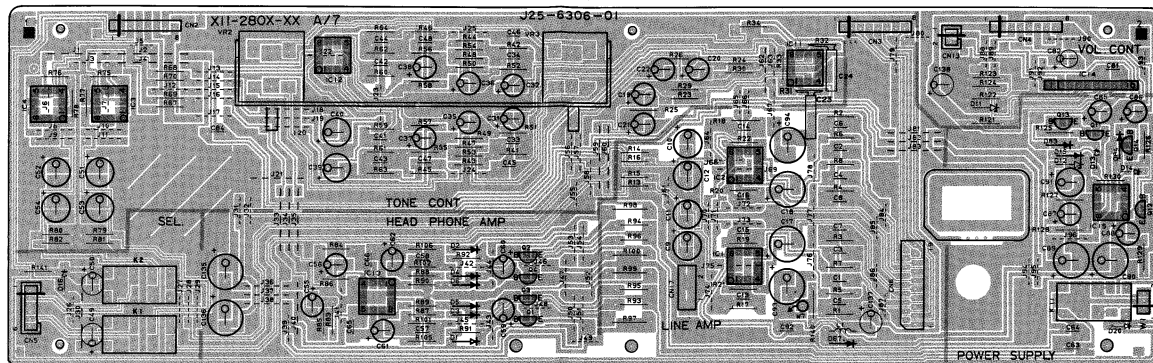


PC BOARD (Component Side View)

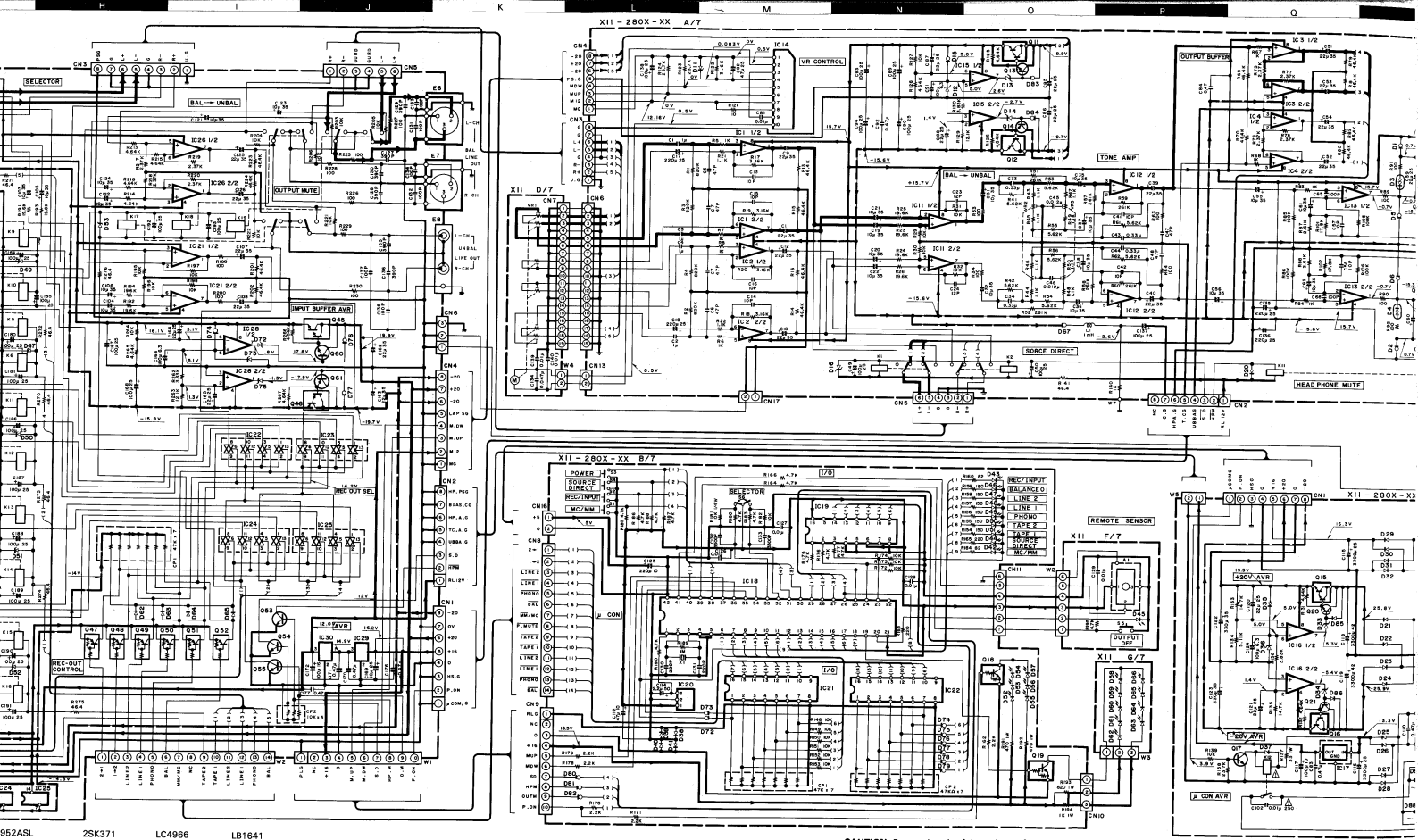
PREAMPLIFIER UNIT



Refer to the schematic diagram for the values of resistors and capacitors.



CAUTION
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD, REPLACE ONLY WITH
SAME TYPE AND RATING FUSES
X11-280X-XX C/7

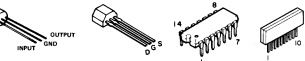


952ASL

2SK371

LC4966

LB1641



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **⚠** Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

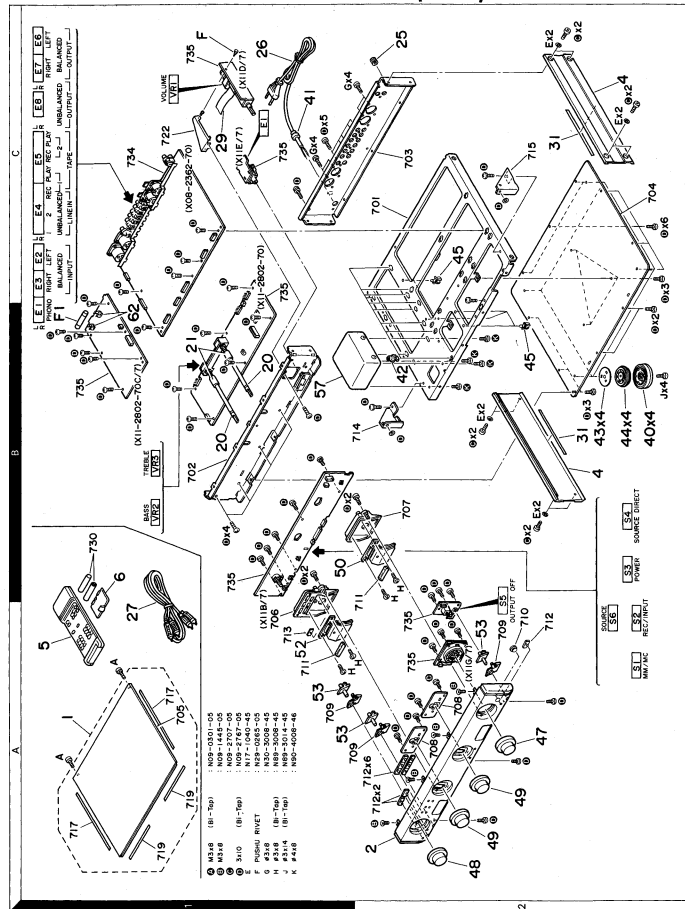
Die angegebenen hochohmigen Messwerte können die Meßwert zeilen Instrument



Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

 SIGNAL
 +B LINE
 -B LINE

EXPLODED VIEW (UNIT)



PARTS LIST

✱ New Parts

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
L-1000C						
1	1A	✱	A52-0141-02	TOP PLATE ASSY		
2	2A	✱	A20-5916-05	PANEL		
3	2B, 2C	✱	A50-0330-03	SIDE PLATE		
4	1A	✱	A70-0323-05	REMOTE CONTROLLER ASSY		
6	1A	✱	A09-0100-08	BATTERY CASE		
			B46-0092-03	WARRANTY CARD		
			B46-0096-13	WARRANTY CARD		X
			B46-0121-03	WARRANTY CARD		P
			B46-0122-13	WARRANTY CARD		E
			B46-0143-13	WARRANTY CARD		B
			B50-7810-00	INSTRUCTION MANUAL (ENGLISH)		
			B50-7811-00	INSTRUCTION MANUAL (FRENCH)		
			B50-7812-00	INSTRUCTION MANUAL (G, D, I)		
			B58-0803-13	CAUTION CARD		
20	1B	✱	D21-1620-04	EXTENSION SHAFT		
21	1B	✱	D22-0068-04	SHAFT COUPLING		
25	2C	✱	E21-0006-35	BINDING POST GND		
26	1C	✱	E30-0374-05	AC POWER CORD		KP
26	1C	✱	E30-1341-05	AC POWER CORD		X
26	1C	✱	E30-1416-05	AC POWER CORD		T
26	1C	✱	E30-2580-05	AC POWER CORD		E
27	1A	✱	E30-2621-05	CORD WITH PLUG		
29	1C	✱	E31-7217-05	FLAT CABLE (19P)	W15	
31	2B, 2C	✱	E30-2622-05	AUDIO CORD (R)		
			G10-0155-04	NON-WOVEN FABRIC		
			H01-8685-04	ITEM CARTON CASE		
			H10-3930-02	POLYSTYRENE FOAMED FIXTURE		
			H10-3931-12	POLYSTYRENE FOAMED FIXTURE		
			H25-0232-04	PROTECTION BAG (235X350X0.03)		
			H25-0391-04	PROTECTION BAG		
40	2B	✱	J02-1054-05	FOOT		
41	1C	✱	J41-0024-15	POWER CORD BUSHING		E
41	1C	✱	J42-0083-05	POWER CORD BUSHING		KP
42	2B, 2C	✱	J19-3242-05	UNIT HOLDER		X
43	2B	✱	J30-0270-04	SPACER		
44	2B	✱	J39-0154-04	SPACER		
45	2C	✱	J61-0033-05	WIRE BAND		
			J61-0307-05	WIRE BAND		
47	2A	✱	K29-3825-04	KNOB ASSY	VOLUME	
48	2A	✱	K21-0416-04	KNOB	SELECTOR	
49	2A	✱	K21-0417-04	KNOB	BASS TREBLE	
50	1B, 2B	✱	K29-3829-04	KNOB ASSY	SOURCE DIRECT	
52	1A, 2A	✱	K29-3831-04	KNOB	POWER	
53	1A, 2A	✱	K29-3832-04	KNOB		
57	1B, 2B	✱	L07-0022-05	POWER TRANSFORMER		E
57	1B, 2B	✱	L07-0023-05	POWER TRANSFORMER		T
57	1B, 2B	✱	L07-0024-05	POWER TRANSFORMER		KP
58	2B	✱	L92-0025-05	FERRITE CORE		
			W01-0368-05	HEX WRENCH		
A	1A	✱	N09-0301-05	TAPTITE SCREW (3XB,)		
B	2A	✱	N09-1445-05	SET SCREW (M3XB)		
C	2B, 2C	✱	N09-2707-05	DRESSED SCREW		

E: Scandinavia & Europe K: USA

P: Canada

U: P(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

▲ indicates safety critical components

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-			B46-0121-13	WARRANTY CARD	E E E E	
-			B46-0122-13	WARRANTY CARD		
-			B46-0143-13	WARRANTY CARD		
-		*	B50-7810-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-7811-00	INSTRUCTION MANUAL (FRENCH)		
-		*	B50-7812-00	INSTRUCTION MANUAL (G,D,I)		
-		*	B58-0803-13	CAUTION CARD		
20	1B	*	D21-1620-04	EXTENSION SHAFT	K P E T	
21	1B	*	D22-0068-04	SHAFT COUPLING		
25	2C	*	E21-0006-35	BINDING POST GND	K P T E	
26	1C	*	E30-0974-05	AC POWER CORD		
26	1C	*	E30-1341-05	AC POWER CORD		
26	1C	*	E30-1416-05	AC POWER CORD		
26	1C	*	E30-2580-05	AC POWER CORD		
27	1A	*	E30-2621-05	AUDIO CORD (L)	W15	
29	1C	*	E30-2600-05	CORD WITH PLUG		
29	1C	*	E31-7217-05	FLAT CABLE (19P)		
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43	2B	*	J19-3242-05	UNIT HOLDER		
44	2B	*	J30-0270-04	SPACER		
44	2B	*	J39-0154-04	SPACER	E K P T	
45	2C	*	J61-0033-05	WIRE BAND		
-		*	J61-0307-05	WIRE BAND		
47	2A	*	K29-3825-04	KNOB ASSY		
48	2A	*	K21-0416-04	KNOB SELECTOR		
49	2A	*	K21-0417-04	KNOB BASS TREBLE		
50	1B, 2B	*	K29-3829-04	KNOB ASSY SOURCE DIRECT		
52	1A, 2A	*	K29-3831-04	KNOB POWER		
53	1A, 2A	*	K29-3832-04	KNOB		
57	1B, 2B	*	L07-0022-05	POWER TRANSFORMER	E K P T	
57	1B, 2B	*	L07-0023-05	POWER TRANSFORMER		
57	1B, 2B	*	L07-0024-05	POWER TRANSFORMER		
58	2B	*	L92-0025-05	FERRITE CORE		
A	1A	*	W01-0369-05	HEX WRENCH		
B	1A	*	N09-0301-05	TAPTITE SCREW (3X8)		
C	2B, 2C	*	N09-1445-05	SET SCREW (W3X8)		
		*	N09-2707-05	DRESSED SCREW		

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17

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D	1B, 1C		N09-2767-05	SCREW		
F	2B, 2C		N17-1040-45	TIGHTEN LOCK WASHER		
G	1C		N29-0265-05	PUSH RIVET		
H	1C, 2C		N30-3008-45	PAN HEAD MACHINE SCREW		
J	1A, 2A		N89-3008-45	BINDING HEAD TAPTITE SCREW		
K	1B, 2B		N89-3014-45	BINDING HEAD TAPTITE SCREW		
	2B		N90-4008-46	TP HEAD MACHINE SCREW		
PREAMPLIFIER UNIT (X08-2362-70)						
C1	.2		CF92FVH101K	MF 100PF	K	
C3	-6		CF92FVH122J	MF 1200PF	J	
C7	.8		CF92FVH122J	MF 2200PF	J	
C9	.10		C91-0175-05	POLYSTY 56PF	K	
C11	.14		CF92FVH1332J	MF 3300PF	J	
C15	-18	*	C90-1814-05	ELECTR0 22UF	25WV	
C19	.20		CE04KWJ332M	ELECTR0 3300UF	6.3WV	
C21	-24		C093HP2A393G	MYLAR 0.039UF	G	
C25	-28		C093HP2A113G	MYLAR 0.011UF	G	
C29	.30	*	C90-1792-05	ELECTR0 100UF	6.3WV	
C31	-34	*	C90-1814-05	ELECTR0 22UF	25WV	
C35	-38	*	C90-1803-05	ELECTR0 22UF	35WV	
C39	-42		CF92FVH1392J	MF 3900PF	J	
C43	-58		CF92FVH151K	MF 150PF	K	
C59	-62		CF92FVH105J	MF 1.0UF	J	
C63	-66		CF92FVH101K	MF 100PF	K	
C67	-70	*	C90-1803-05	ELECTR0 22UF	35WV	
C71	.72		CF92FVH105J	MF 1.0UF	J	
C73	.74		CF92FVH101K	MF 100PF	K	
C75	-78	*	C90-1803-05	ELECTR0 22UF	35WV	
C79	.80		CF92FVH105J	MF 1.0UF	J	
C81	.82		CF92FVH101K	MF 100PF	K	
C83	-86		C90-1803-05	ELECTR0 22UF	35WV	
C87	.88		CF92FVH105J	MF 1.0UF	J	
C89	.90		CF92FVH101K	MF 100PF	K	
C91	-94	*	C90-1803-05	ELECTR0 22UF	35WV	
C95	.96		CF92FVH105J	MF 1.0UF	J	
C97	.98		CF92FVH101K	MF 100PF	K	
C99	-102	*	C90-1803-05	ELECTR0 22UF	35WV	
C103	-106	*	C90-1794-05	ELECTR0 10UF	35WV	
C107, 108		*	C90-1803-05	ELECTR0 22UF	35WV	
C109-120		*	CF92FVH122K	MF 220PF	K	
C121-124		*	C90-1794-05	ELECTR0 10UF	35WV	
C125, 126		*	C90-1803-05	ELECTR0 22UF	35WV	
C127-130		*	CF92FVH1391K	MF 390PF	K	
C131-134			CF92FVH101K	MF 100PF	K	
C135, 136			CF92FVH1391K	MF 390PF	K	
C137, 138			CF92FVH101K	MF 100PF	K	
C139, 140			C91-0175-05	POLYSTY 56PF	K	
C151			CF92FVH104J	MF 0.10UF	J	
C152			CE04KWIE101M	ELECTR0 100UF	25WV	
C153, 154			CF92FVH1474J	MF 0.47UF	J	
C155	*		C90-1814-05	ELECTR0 22UF	25WV	
C156	*		C90-1792-05	ELECTR0 100UF	6.3WV	
C157	*		C90-1814-05	ELECTR0 22UF	25WV	
C158, 159			C90-1807-05	ELECTR0 100UF	25WV	

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C160						
C162-166						
C166						
C167, 168						
C169						
C170, 171						
C172						
C173						
C174, 175						
C176-179						
C180-193						
C195, 196						
E1						
E2, .3						
E4, 5						
E6, .7						
E8						
L1 -18						
L19 -30						
L						
M						
CP1						
CP2						
R1, .2						
R3, .4						
R5, .6						
R7, .8						
R9, 10						
R11, 12						
R13, 14						
R15 -22						
R23 -26						
R27 -30						
R31 -34						
R35 -38						
R39 -42						
R43 -46						
R47 -50						
R51 -54						
R55 -58						
R59 -66						
R67 -70						
R71 -74						
R75 -78						
R81 -92						
R93 -96						
R97 -100						
R101-104						
R105-108						
R113-116						
R117, 118						
R119, 120						
R121, 122						

E: Scandinavia & Europe K: USA P: Canada

U: PK(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

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PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 部品番号	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
D E F G H	1B, 1C 2B, 2C 1C 1C, 2C 1A, 2A		N09-2767-05 N17-1040-45 N29-0265-05 N30-3008-45 N89-3008-45	SCREW TWO THED LOCK WASHER PUSH RIVET PAN HEAD MACHINE SCREW BINDING HEAD TAPITITE SCREW		
J K	1B, 2B 2B		N89-3014-45 N90-4008-46	BINDING HEAD TAPITITE SCREW TP HEAD MACHINE SCREW		
PREAMPLIFIER UNIT (X08-2362-70)						
C1 C3 C7 C9 C11	2 -6 8 10 -14		CF92FV1H101K CF92FV1H122J CF92FV1H222J C91-0175-05 CF92FV1H332J	MF MF MF POLYSTY MF	100PF 1200PF 2200PF 56PF 3300PF	K K J J J
C15 C19 C21 C23 C25 C29	-18 20 -24 30 -38 -30	*	C90-1814-05 CE04KW0J332M C993HP2A393G C993HP2A1130 C90-1792-05	ELECTRØ ELECTRØ MYLAR MYLAR ELECTRØ	22UF 3300UF 0.039UF 0.011UF 100UF	25WV 6.3WV G G 3.6WV
C31 C35 C39 C43 C59	-34 -38 -42 -58 -62	*	C90-1814-05 C90-1803-05 CF92FV1H392J CF92FV1H151K CF92FV1H105J	ELECTRØ ELECTRØ MF MF MF	22UF 22UF 3900PF 150PF 1.0UF	25WV 35WV J K J
C63 C67 C71 C73 C75	-66 -70 72 74 -78	*	CF92FV1H101K C90-1803-05 CF92FV1H105J CF92FV1H101K C90-1803-05	MF ELECTRØ MF MF ELECTRØ	100PF 22UF 1.0UF 100PF 22UF	K 35WV J K 35WV
C79 C81 C83 C87 C89	80 82 -86 88 90		CF92FV1H105J CF92FV1H101K C90-1803-05 CF92FV1H105J CF92FV1H101K	MF MF ELECTRØ MF MF	1.0UF 100PF 22UF 1.0UF 100PF	J K 35WV J K
C91 C95 C97 C99 C103	-94 96 98 -102 -106	*	C90-1803-05 CF92FV1H105J CF92FV1H101K C90-1803-05 C90-1794-05	ELECTRØ MF MF ELECTRØ ELECTRØ	22UF 1.0UF 100PF 22UF 10UF	35WV J K 35WV 35WV
C107 C109 C121 C125 C127	108 -120 -124 126 -130	*	C90-1803-05 CF92FV1H221K C90-1794-05 C90-1803-05 CF92FV1H391K	ELECTRØ MF ELECTRØ ELECTRØ MF	22UF 220PF 10UF 22UF 390PF	35WV K 35WV 35WV K
C131 C135 C137 C139 C151	134 136 138 140 151		CF92FV1H101K CF92FV1H391K CF92FV1H101K C91-0175-05 CF92FV1H104J	MF MF MF POLYSTY MF	100PF 390PF 100PF 56PF 0.10UF	K K K J J
C152 C153 C155 C156 C157	152 154 156 158 159	*	CE04KW1E101M CF92FV1H474J C90-1814-05 C90-1792-05 C90-1814-05	ELECTRØ MF ELECTRØ ELECTRØ ELECTRØ	100UF 0.47UF 22UF 100UF 22UF	25WV J 25WV 6.3WV 25WV
C158, 159			C90-1807-05	ELECTRØ	100UF	25WV

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C160 C162-165 C166 C167, 168 C169		*	CE04KW1E101M C90-1814-05 C90-1792-05 C90-1807-05 CE04KW1E100M	ELECTRØ ELECTRØ ELECTRØ ELECTRØ ELECTRØ	100UF 22UF 100UF 100UF 10UF	25WV 25WV 6.3WV 25WV 25WV
C170, 171 C172 C173 C174, 175 C176-179			CF92FV1H474J CE04KW1C101M CF92FV1H474J C90-1807-05 CF92FV1H474J	MF ELECTRØ MF ELECTRØ MF	0.47UF 100UF 0.47UF 100UF 0.47UF	J 16WV J 25WV J
C180-193 C195, 196			CE04KW1E101M CF92FV1H474J	ELECTRØ MF	100UF 0.47UF	25WV J
E1 E2 E4 E6 E8	-3 3 5 7 8	*	E13-0253-05 E06-0305-05 E13-0636-05 E06-0306-05 E13-0253-05	PHONO JACK CYLINDRICAL RECEPTACLE PHONO JACK CYLINDRICAL RECEPTACLE PHONO JACK	(2P) (3P) (6P) (3P) (2P)	
L1 L9	-18 -30		L40-1011-47 L40-1021-14	SMALL FIXED INDUCTOR SMALL FIXED INDUCTOR	(100UH, K) (1.0MH, K)	
L M	1B, 1C 1B, 1C		N35-3008-45 N89-2606-45	BINDING HEAD MACHINE SCREW BINDING HEAD TAPITITE SCREW		
CP1 CP2 R1 R3 R5			R90-0438-05 R90-0290-05 RN14BK2E1211FTS RN14BK2E1100FTS RN14BK2E1000FTS	MULTI-COMP MULTI-COMP RN RN RN	47KX7 10KX3 1.21K 10.0 100.0	J 1/6W J 1/6W F 1/4W F 1/4W F 1/4W
R7 R9 R11 R13 R15	8 10 12 14 -22	*	RN14BK2E4642FTS RN14BK2E4220FTS RN14BK2E1300FTS RN14BK2E1180FTS RN14BK2E1781FTS	RN RN RN RN RN	46.4K 422.0 130.0 11.0 1.78K	F 1/4W F 1/4W F 1/4W F 1/4W F 1/4W
R23 R27 R31 R35 R39	-26 -30 34 -38 -42	*	RN14BK2E1782FTS RN14BK2E8285FTS RN14BK2E1001FTS RN14BK2E8252FTS RN14BK2E6811FTS	RN RN RN RN RN	17.8K 82.5 1.00K 82.5K 6.81K	F 1/4W F 1/4W F 1/4W F 1/4W F 1/4W
R43 R47 R51 R55 R59	-46 -50 -54 -58 -66	*	RN14BK2E21RSFTS RN14BK2E8250FTS RN14BK2E1080FTS RN14BK2E1000FTS RD14AB2E560JTS	RN RN RN RN FL-PROOF RD	21.5 825.0 10.0 100.0 56	F 1/4W F 1/4W F 1/4W F 1/4W J 1/4W
R67 R71 R75 R81 R93	-70 -74 -78 -92 -96	*	RN14BK2E4642FTS RN14BK2E2150FTS RN14BK2E1471FTS RN14BK2E1471FTS RN14BK2E1003FTS	RN RN RN RN RN	46.4K 215.0 1.47K 1.47K 100K	F 1/4W F 1/4W F 1/4W F 1/4W F 1/4W
R97 R101 R105 R113 R117	-100 -104 -108 -116 -118	*	RN14BK2E5112FTS RN14BK2E8203FTS RN14BK2E1001FTS RN14BK2E4642FTS RN14BK2E5112FTS	RN RN RN RN RN	51.1K 820K 1.00K 46.4K 51.1K	F 1/4W F 1/4W F 1/4W F 1/4W F 1/4W
R119, 120 R121, 122		*	RN14BK2E8203FTS RN14BK2E1001FTS	RN RN	820K 1.00K	F 1/4W F 1/4W

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参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
R123-126		*	RN14BK2E2371FTS	RN 2.37K F 1/4W		
R131-134		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R135, 136		*	RN14BK2E5112FTS	RN 51.1K F 1/4W		
R137, 138		*	RN14BK2E8203FTS	RN 820K F 1/4W		
R139, 140		*	RN14BK2E1001FTS	RN 1.00K F 1/4W		
R141-144		*	RN14BK2E2371FTS	RN 2.37K F 1/4W		
R149-152		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R153, 154		*	RN14BK2E5112FTS	RN 51.1K F 1/4W		
R155, 156		*	RN14BK2E8203FTS	RN 820K F 1/4W		
R157, 158		*	RN14BK2E1001FTS	RN 1.00K F 1/4W		
R159-162		*	RN14BK2E2371FTS	RN 2.37K F 1/4W		
R167-170		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R171, 172		*	RN14BK2E5112FTS	RN 51.1K F 1/4W		
R173, 174		*	RN14BK2E8203FTS	RN 820K F 1/4W		
R175, 176		*	RN14BK2E1001FTS	RN 1.00K F 1/4W		
R177-180		*	RN14BK2E2371FTS	RN 2.37K F 1/4W		
R185-188		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R191-194		*	RN14BK2E1962FTS	RN 19.6K F 1/4W		
R195-198		*	RN14BK2E1002FTS	RN 10.0K F 1/4W		
R199, 200		*	RN14BK2E1000FTS	RN 100.0 F 1/4W		
R201, 202		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R203-206		*	RN14BK2E1002FTS	RN 10.0K F 1/4W		
R213-216		*	RN14BK2E4641FTS	RN 4.64K F 1/4W		
R217-220		*	RN14BK2E2371FTS	RN 2.37K F 1/4W		
R221, 222		*	RN14BK2E1002FTS	RN 10.0K F 1/4W		
R223, 224		*	RN14BK2E4642FTS	RN 46.4K F 1/4W		
R225-230		*	RN14BK2E1000FTS	RN 100.0 F 1/4W		
R251, 252		*	RD14AB2E152JTS	PL-PROOF RD 1.5K J 1/4W		
R253		*	RN14BK2E1002FTS	RN 10.0K F 1/4W		
R254		*	RN14BK2E4641FTS	RN 4.64K F 1/4W		
R255		*	RN14BK2E3831FTS	RN 3.83K F 1/4W		
R256		*	RN14BK2E1212FTS	RN 12.1K F 1/4W		
R257		*	RD14AB2E330JTS	FL-PROOF RD 33 J 1/4W		
R258, 259		*	RD14AB2E102JTS	FL-PROOF RD 1.0K J 1/4W		
R260, 261		*	RN14BK2E4641FTS	RN 4.64K F 1/4W		
R262		*	RN14BK2E3831FTS	RN 3.83K F 1/4W		
R263		*	RN14BK2E1212FTS	RN 12.1K F 1/4W		
R264		*	RN14BK2E1002FTS	RN 10.0K F 1/4W		
R265-269		*	RN14BK2E4641FTS	RN 4.64K F 1/4W		
R270-277		*	RN14BK2E464R4FTS	RN 46.4 F 1/4W		
K1 ,2			S51-2089-05	MAGNETIC RELAY		
K5 -19			S51-2089-05	MAGNETIC RELAY		
D1 -6			HZS5.1S(B2)	ZENER DIODE		
D1 -6			RD5.1JS(B2)	ZENER DIODE		
D7 ,8			HSS104	DIODE		
D7 ,8			1SS133	DIODE		
D9 -16			E-272	CONSTANT CURRENT DIODE		
D17 -20			MA27W(A)	VARISTOR		
D21 -28			HSS104	DIODE		
D21 -28			1SS133	DIODE		
D29 ,30			E-272	CONSTANT CURRENT DIODE		
D43			HZS11N(B2)	ZENER DIODE		
D43			RD11ES(B2)	ZENER DIODE		
D45 ,46			E-301	CONSTANT CURRENT DIODE		

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D47 -53			HZS11N(B2)	ZENER DIODE		
D47 -53			RD11ES(B2)	ZENER DIODE		
D62 -65			HSS104	DIODE		
D62 -65			1SS133	DIODE		
D64			HZS15S(B)	ZENER DIODE		
D66			RD15JS(B)	ZENER DIODE		
D67			E-272	CONSTANT CURRENT DIODE		
D68			HZS5.1S(B2)	ZENER DIODE		
D68			RD5.1JS(B2)	ZENER DIODE		
D69			HZS15S(B)	ZENER DIODE		
D69			RD15JS(B)	ZENER DIODE		
D70 ,71			HSS104	DIODE		
D70 ,71			1SS133	DIODE		
D72			HZS15S(B)	ZENER DIODE		
D72			RD15JS(B)	ZENER DIODE		
D73			HZS5.1S(B2)	ZENER DIODE		
D73			RD5.1JS(B2)	ZENER DIODE		
D74			E-272	CONSTANT CURRENT DIODE		
D75			HZS15S(B)	ZENER DIODE		
D75			RD15JS(B)	ZENER DIODE		
D76 ,77			E-301	CONSTANT CURRENT DIODE		
D78 ,79			HSS104	DIODE		
D78 ,79			1SS133	DIODE		
IC1 ,2			NJM5532D-D	IC(OP AMP X2)		
IC3 -12		*	NJM4580D-D	IC		
IC21			NJM4565D-D	IC		
IC22-25			LC4966	IC(CMOS LOGIC BILATERAL SW)		
IC26		*	NJM4580D-D	IC		
IC27,28			NJM4560D-A	IC(OP AMP X2)		
IC29			MSF7815L	IC		
IC30		*	MSF7812L	IC		
Q1 -8			2SK371(BL)	FET		
Q1 -8			2SK371(V)	FET		
Q9 -20			2SC1740S(Q,R)	TRANSISTOR		
Q9 -20			2SC945(A)(Q,P)	TRANSISTOR		
Q21 -24			2SC1845(F,E)	TRANSISTOR		
Q25 -28			2SA992(F,E)	TRANSISTOR		
Q41			2SB772(Q,P)	TRANSISTOR		
Q42			2SD882(Q,P)	TRANSISTOR		
Q43			2SA733(A)(Q,P)	TRANSISTOR		
Q43			2SA933S(Q,R)	TRANSISTOR		
Q44			2SC1740S(Q,R)	TRANSISTOR		
Q44			2SC945(A)(Q,P)	TRANSISTOR		
Q45		*	2SD1509	TRANSISTOR		
Q46			2SB1067	TRANSISTOR		
Q47 -52			DTA124ES	DIGITAL TRANSISTOR		
Q53 -56			2SC1740S(Q,R)	TRANSISTOR		
Q53 -56			2SC945(A)(Q,P)	TRANSISTOR		
Q57			2SA733(A)(Q,P)	TRANSISTOR		
Q57			2SA933S(Q,R)	TRANSISTOR		
Q58			2SC1740S(Q,R)	TRANSISTOR		
Q58			2SC945(A)(Q,P)	TRANSISTOR		
Q59			2SA733(A)(Q,P)	TRANSISTOR		
Q59			2SA933S(Q,R)	TRANSISTOR		
Q60			2SC1740S(Q,R)	TRANSISTOR		

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Q60			2SC945(A)(Q,P)	TRANSISTOR		
Q61			2SA733(A)(Q,P)	TRANSISTOR		
Q61			2SA933S(Q,R)	TRANSISTOR		
TONE UNIT (X11-2802-70: E, 00-11: K, P, -00-51: X, T)						
D42 -66		*	B30-1283-05	LED		
C1 -4			CF92FV1H105J	MF	1.0UF	J
C5 -8			C91-0174-05	POLYSTY	47PF	K
C9 -12		*	C90-1803-05	ELECTRO	22UF	35WV
C13 -16			C91-0166-05	POLYSTY	10PF	D
C17 -18		*	C90-1793-05	ELECTRO	220UF	25WV
C19 -22		*	C90-1794-05	ELECTRO	10UF	35WV
C22 ,24			C91-0167-05	POLYSTY	32PF	K
C31 ,32		*	C90-1794-05	ELECTRO	10UF	35WV
C33 ,34			CF92FV1H334J	MF	0.33UF	J
C35 -38		*	C90-1794-05	ELECTRO	10UF	35WV
C39 ,40		*	C90-1803-05	ELECTRO	22UF	35WV
C41 ,42			C91-0166-05	POLYSTY	10PF	D
C43 ,44			CF92FV1H334J	MF	0.33UF	J
C45 ,46			CF92FV1H123J	MF	0.012UF	J
C47 ,48			C91-0174-05	POLYSTY	47PF	K
C49 ,50			CE04KW1E101M	ELECTRO	100UF	25WV
C51 -54		*	C90-1803-05	ELECTRO	22UF	35WV
C55 ,56		*	C90-1794-05	ELECTRO	10UF	35WV
C57 ,58			C91-0166-05	POLYSTY	10PF	D
C59 ,60		*	C90-1814-05	ELECTRO	22UF	25WV
C61 ,62		*	C90-1794-05	ELECTRO	10UF	35WV
C63 ,64			CF92FV1H391K	MF	390PF	K
C65 ,66			CF92FV1H101K	MF	100PF	K
C67 ,68			CF92FV1H102J	MF	1000PF	J
C81			CF92FV1H103J	MF	0.010UF	J
C82			CE04KW1E470M	ELECTRO	47UF	25WV
C83 ,84			CF92FV1H474J	MF	0.47UF	J
C85 -88		*	C90-1814-05	ELECTRO	22UF	25WV
C89 ,90			C90-1807-05	ELECTRO	100UF	25WV
C91		*	C90-1792-05	ELECTRO	100UF	6.3WV
C92			CF92FV1H474J	MF	0.47UF	J
C93 ,94			C90-1807-05	ELECTRO	100UF	25WV
C101,102			C91-0971-05	FILM	0.01UF	250WV
C103			C91-0609-05	MF	0.47UF	J
C110			CF92FV1H474J	MF	0.47UF	J
C112			CE04KW1A470M	ELECTRO	47UF	10WV
C113			CF92FV1H474J	MF	0.47UF	J
C114			CE04KW1H2R2M	ELECTRO	2.2UF	50WV
C115,116			CE04KW1E332M	ELECTRO	3300UF	25WV
C117			CE04KW1A101M	ELECTRO	100UF	10WV
C118,119		*	C90-1784-05	ELECTRO	3300UF	42WV
C120,121		*	C90-1814-05	ELECTRO	22UF	25WV
C122,123		*	C90-1802-05	ELECTRO	330UF	35WV
C124		*	C90-1792-05	ELECTRO	100UF	6.3WV
C125			CE04KW1A221M	ELECTRO	220UF	10WV
C126-129			C91-0676-05	CERAMIC	0.01UF	K
C130,131			CC45FSL1H221J	CERAMIC	220PF	J
C132,133			C91-0664-05	CERAMIC	0.0033UF	K
C134			C91-0692-05	CERAMIC	0.047UF	K

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Q60 Q61 Q61			2SC945(A)(Q,P) 2SA733(A)(Q,P) 2SA933S(Q,R)	TRANSISTOR TRANSISTOR TRANSISTOR		
TONE UNIT (X11-2802-70: E, 00-11: K, P, -00-51: X, T)						
D42 -66		*	B30-1283-05	LED		
C1 -4			CF92FV1H105J	MF	1.0UF J	
C5 -8			C91-0174-05	POLYSTY	47PF K	
C9 -12		*	C90-1803-05	ELECTR0	22UF 35WV	
C13 -16			C91-0166-05	POLYSTY	10PF D	
C17 ,18		*	C90-1793-05	ELECTR0	220UF 25WV	
C19 -22		*	C90-1794-05	ELECTR0	10UF 35WV	
C23 ,24			C91-0167-05	POLYSTY	12PF K	
C31 ,32		*	C90-1794-05	ELECTR0	10UF 35WV	
C33 ,34		*	CF92FV1H334J	MF	0.33UF J	
C35 -38		*	C90-1794-05	ELECTR0	10UF 35WV	
C39 ,40		*	C90-1803-05	ELECTR0	22UF 35WV	
C41 ,42			C91-0166-05	POLYSTY	10PF D	
C43 ,44			CF92FV1H334J	MF	0.33UF J	
C45 ,46			CF92FV1H123J	MF	0.012UF J	
C47 ,48		*	C91-0174-05	POLYSTY	47PF K	
C49 ,50			CE04KW1E101M	ELECTR0	100UF 25WV	
C51 -54		*	C90-1803-05	ELECTR0	22UF 35WV	
C55 ,56		*	C90-1794-05	ELECTR0	10UF 35WV	
C57 ,58			C91-0166-05	POLYSTY	10PF D	
C59 ,60		*	C90-1814-05	ELECTR0	22UF 25WV	
C61 ,62		*	C90-1794-05	ELECTR0	10UF 35WV	
C63 ,64			CF92FV1H391K	MF	390PF K	
C65 ,66			CF92FV1H101K	MF	100PF K	
C67 ,68			CF92FV1H102J	MF	1000PF J	
C81			CF92FV1H103J	MF	0.010UF J	
C82			CE04KW1E470M	ELECTR0	47UF 25WV	
C83 ,84			CF92FV1H474J	MF	0.47UF J	
C85 -88		*	C90-1814-05	ELECTR0	22UF 25WV	
C89 ,90		*	C90-1807-05	ELECTR0	100UF 25WV	
C91		*	C90-1792-05	ELECTR0	100UF 6.3WV	
C92			CF92FV1H474J	MF	0.47UF J	
C93 ,94			C90-1807-05	ELECTR0	100UF 25WV	
C101,102			C91-0971-05	FILM	0.01UF 250WV	
C103			C91-0609-05	MF	0.47UF J	
C110			CF92FV1H474J	MF	0.47UF J	
C112			CE04KW1A470M	ELECTR0	47UF 10WV	
C113			CF92FV1H474J	MF	0.47UF J	
C114			CE04KW1H222M	ELECTR0	2.2UF 50WV	
C115,116			CE04KW1E332M	ELECTR0	3300UF 25WV	
C117			CE04KW1A101M	ELECTR0	100UF 10WV	
C118,119		*	C90-1784-05	ELECTR0	3300UF 42WV	
C120,121		*	C90-1814-05	ELECTR0	22UF 25WV	
C122,123		*	C90-1802-05	ELECTR0	330UF 35WV	
C124		*	C90-1792-05	ELECTR0	100UF 6.3WV	
C125		*	CE04KW1A221M	ELECTR0	220UF 10WV	
C126-129			C91-0676-05	CERAMIC	0.01UF K	
C130,131			CC45ESLH221J	CERAMIC	220PF K	
C132,133			C91-0664-05	CERAMIC	0.0033UF K	
C134			C91-0692-05	CERAMIC	0.047UF K	

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C135,136 C137,138 C139,140		*	C90-1793-05 CE04KW1E101M C91-0676-05	ELECTR0 220UF 25WV ELECTR0 100UF 25WV CERAMIC 0.01UF K		
CM6 ,7 E1			E10-1907-05 E11-0162-05	FLAT CABLE CONNECTOR (19P) PHONE JACK (3P)		
F1 F1			F05-1612-05 F05-4014-05	FUSE (SEMK0) (250V T160MA) FUSE (UL) (250V 0.4A)	EXT KP	
62 62	1B,1C 1B,1C		J13-0041-05 J13-0054-05	FUSE CLIP FUSE CLIP	KP EXT	
L1 T1 T1 T1 X1			L40-1021-14 L01-7651-05 L01-7652-05 L01-7657-05 L78-0239-05	SMALL FIXED INDUCTOR(1.0MH,K) POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER RESONATOR	KP E XT	
L N	1B,1C		N35-3008-45 N89-3008-45	BINDING HEAD MACHINE SCREW BINDING HEAD TAPTITE SCREW		
CP1 ,2 R1 -4 R5 -8 R13 -16 R17 -20		*	R90-0438-05 RN14BK2E8203FTS RN14BK2E1001FTS RN14BK2E4642FTS RN14BK2E3161FTS	MULTI-COMP 47KX7 J 1/6W 820K F 1/4W 1.00K F 1/4W 46.4K F 1/4W 3.16K F 1/4W		
R21 ,22 R23 -26 R29 -32 R33 ,34 R41 ,42		*	RN14BK2E1101FTS RN14BK2E1962FTS RN14BK2E1002FTS RN14BK2E1000FTS RN14BK2E5621FTS	RN 1.10K F 1/4W RN 19.6K F 1/4W RN 10.0K F 1/4W RN 100.0 F 1/4W RN 5.62K F 1/4W		
R43 -50 R51 ,52 R53 -56 R57 -60 R61 ,62		*	RN14BK2E1101FTS RN14BK2E2613FTS RN14BK2E5621FTS RN14BK2E2613FTS RN14BK2E5621FTS	RN 1.10K F 1/4W RN 261K F 1/4W RN 5.62K F 1/4W RN 261K F 1/4W RN 5.62K F 1/4W		
R63 ,64 R67 ,68 R69 ,70 R75 -78 R79 -82		*	RN14BK2E1000FTS RN14BK2E1001FTS RN14BK2E4642FTS RN14BK2E2371FTS RN14BK2E4642FTS	RN 100.0 F 1/4W RN 1.00K F 1/4W RN 46.4K F 1/4W RN 2.37K F 1/4W RN 46.4K F 1/4W		
R83 ,84 R85 ,86 R87 ,88 R89 -92 R93 -96		*	RN14BK2E1001FTS RN14BK2E1003FTS RN14BK2E2611FTS RN14BK2E1000FTS RD14AB2E560JTS	RN 1.00K F 1/4W RN 100K F 1/4W RN 2.61K F 1/4W RN 100.0 F 1/4W FL-PROOF RD 56 J 1/4W		
R97 -100 R101,102 R105,106 R121 R122		*	RS14DB3A101JTE RN14BK2E1782FTS RN14BK2E1003FTS RN14BK2E10R0FTS RN14BK2E3162FTS	FL-PROOF RS 100 J 1W RN 17.8K F 1/4W RN 100K F 1/4W RN 10.0 F 1/4W RN 31.6K F 1/4W		
R123,124 R125,126 R127 R128 R129		*	RN14BK2E2372FTS RN14BK2E4641FTS RN14BK2E1002FTS RN14BK2E4641FTS RN14BK2E1212FTS	RN 23.7K F 1/4W RN 4.64K F 1/4W RN 10.0K F 1/4W RN 4.64K F 1/4W RN 12.1K F 1/4W		
R130			RN14BK2E3831FTS	RN 3.83K F 1/4W		

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R131, 132		*	RN14BK2E4641F1TS	RN 4.64K F 1/4W		
R133		*	RN14BK2E1472F1TS	RN 14.7K F 1/4W		
R134		*	RN14BK2E5111F1TS	RN 5.11K F 1/4W		
R135		*	RN14BK2E1472F1TS	RN 14.7K F 1/4W		
R136		*	RN14BK2E3631F1TS	RN 3.63K F 1/4W		
R137			RS14DB3A330JTB	FL-PROOF RS 33 J 1W		
R138		*	RN14BK2E2372F1TS	RN 23.7K F 1/4W		
R139		*	RN14BK2E1002F1TS	RN 10.0K F 1/4W		
R140		*	RN14BK2E1001F1TS	RN 1.00K F 1/4W		
R141		*	RN14BK2E464R4F1TS	RN 46.4 F 1/4W		
R191, 192			RS14DB3A471JTB	FL-PROOF RS 470 J 1W		
R193			RS14DB3A821JTB	FL-PROOF RS 820 J 1W		
R194			RS14DB3A102JTB	FL-PROOF RS 1.0K J 1W		
VR1		*	R29-9022-05	POTENTIOMETER		
VR2, 3		*	R10-3042-05	POTENTIOMETER(10K X2)		
K1, 2			S51-2089-05	MAGNETIC RELAY		
K11			S51-2089-05	MAGNETIC RELAY		
K12			S51-1052-05	MAGNETIC RELAY		
S1		*	S40-1064-05	PUSH SWITCH		
S5		*	S40-1064-05	PUSH SWITCH		
S6		*	T99-0242-05	SPEED DETECTOR		
D1, 2			E-272	CONSTANT CURRENT DIODE		
D3, 4			MA27W(A)	VARISTOR		
D5			E-272	CONSTANT CURRENT DIODE		
D11, 12			HZS5.1S(B2)	ZENER DIODE		
D11, 12			RD5.1JS(B2)	ZENER DIODE		
D13, 14			HZS15S(B)	ZENER DIODE		
D13, 14			RD15JS(B)	ZENER DIODE		
D15			E-272	CONSTANT CURRENT DIODE		
D16			HZS11N(B2)	ZENER DIODE		
D16			RD11ES(B2)	ZENER DIODE		
D20			HSS104	DIODE		
D20			1SS133	DIODE		
D21 -32			SS5668	DIODE		
D33, 34			HZS15S(B)	ZENER DIODE		
D33, 34			RD15JS(B)	ZENER DIODE		
D35			E-272	CONSTANT CURRENT DIODE		
D36			HZS5.1S(B2)	ZENER DIODE		
D36			RD5.1JS(B2)	ZENER DIODE		
D37 -41			HSS104	DIODE		
D37 -41			1SS133	DIODE		
D67			E-272	CONSTANT CURRENT DIODE		
D72 -82			E-102	CONSTANT CURRENT DIODE		
D83 -86			E-301	CONSTANT CURRENT DIODE		
D87, 88			RBV-402LFA	DIODE		
IC1, 2			NJM5532D-D	IC(OP AMP X2)		
IC3, 4			NJM4565D-D	IC		
IC11-13			NJM4565D-D	IC		
IC14			LB1641	IC(MOTOR DRIVER)		
IC15			NJM4560D-A	IC(OP AMP X2)		
IC16			NJM4560D-N	IC		
IC17			AN7805F	IC(VOLTAGE REGULATOR/ +5V)		
IC17			UPC7805HF	IC(VOLTAGE REGULATOR/ +5V)		
IC18		*	UPD7538AC-077	IC(MICROPROCESSOR)		

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IC19		*	TC74HC237AP	IC(3 TO 8 LINE DECODER/LATCH)		
IC20			M51952ASL	IC(SYSTEM RESET)		
IC21, 22			T062501P	IC(7CH TRANSISTOR ARRAY)		
Q1, 2			2SC3940A(R,S)	TRANSISTOR		
Q3, 4			2SA1534A(R,S)	TRANSISTOR		
Q11		*	2SD1509	TRANSISTOR		
Q12		*	2SB1067	TRANSISTOR		
Q13		10	2SC1740S(Q,R)	TRANSISTOR		
Q13			2SC945(A)(Q,P)	TRANSISTOR		
Q14			2SA733(A)(Q,P)	TRANSISTOR		
Q14			2SA933S(Q,R)	TRANSISTOR		
Q15		*	2SD1890	TRANSISTOR		
Q16		*	2SB1250	TRANSISTOR		
Q17			2SC3940A(R,S)	TRANSISTOR		
Q18, 19			DTC124ES	DIGITAL TRANSISTOR		
Q20			2SC1740S(Q,R)	TRANSISTOR		
Q20			2SC945(A)(Q,P)	TRANSISTOR		
Q21			2SA733(A)(Q,P)	TRANSISTOR		
Q21			2SA933S(Q,R)	TRANSISTOR		
A1			W02-0975-05	ELECTRIC CIRCUIT MODULE		

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ACCESSORIES

Accessories

Audio cord 1



(E30-2600-05)

Remote control unit 1



(A70-0323-05)

Batteries 2
("AA" or "R6")

Cannon cable 2



(E30-2621-05)L

(E30-2622-05)R

Hex wrench 1



(W01-0359-05)

If a front panel knob
starts to become loose,
tighten it with this hex
wrench.

SPECIFICATIONS

Total Harmonic Distortion	
(20 Hz to 20,000 Hz)	0.005% (20 Hz to 20,000 Hz, 1 V) 0.003% (20 Hz to 20,000 Hz, 5 V)
Input Sensitivity/Impedance	
Phono (MM)	2.5 mV/47 k Ω
Phono (MC)	200 μ V/100 Ω
LINE/AUX/TAPE	
UNBALANCED	150 mV/47 k Ω
BALANCED	300 mV/47 k Ω
Phono Maximum Input Level	
MM	150 mV (1 kHz, 0.005%)
MC	12 mV (1 kHz, 0.005%)
Frequency Response	
Phono "RIAA"	
MM	20 Hz to 20 kHz \pm 0.2 dB
MC	20 Hz to 20 kHz \pm 0.2 dB
BALANCED/LINE/AUX/TAPE	5 Hz to 100 kHz +0 dB, -3 dB
Signal-to-Noise Ratio	
Phono (MM)	85 dB/85 dB (IHF '78) (IHF '66)
Phono (MC)	85 dB/70 dB (IHF '78), 65 dB (IHF '66)
LINE/AUX/TAPE	
UNBALANCED	100 dB/100 dB (IHF '78) (IHF '66)
BALANCED	100 dB/100 dB (IHF '78) (IHF '66)
Tone Control	
BASS	\pm 10 dB at 100 Hz
TREBLE	\pm 10 dB at 10 kHz
Output Level/Impedance	
Tape REC	150 mV/220 Ω
REC OUT	
UNBALANCED	1 V/100 Ω
BALANCED	2 V/100 Ω
General	
Power Consumption	30 W
Dimensions	
W: 440 mm (17-3/8")	
H: 97 mm (3-13/16")	
D: 398 mm (15-11/16")	
Weight (Net)	
9.0 kg (19.8 lb)	

KENWOOD follows a policy of continuous advancements in development.

For this reason specifications may be changed without notice.

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KENWOOD strebt ständige Verbesserungen in der Entwicklung an.

Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

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Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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